CROW
Electronic Engineering Ltd

CS-47 Link GSM Interface Unit

Runner Add On Modem

Configuration Guide

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Disclaimer

The information in this manual was accurate and reliable at the time of its release. However, we reserve the right to change the specifications of the product described in this manual without notice at any time.

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Contents

INTRODUCTION 1

PRODUCT DESCRIPTION 1

FEATURES 1

HOW TO CONTACT US 1

INSTALLATION PRE-REQUISITES 2

SOFTWARE AND HARDWARE PRE-REQUISITES 2

Cellular Account (GSM Service Provider) 2

TCP / IP 2

Computer Requirements 2

Operating System Requirements 2

INSTALLING THE SOFTWARE 3

DOWNLOADING THE CS-47 GSM LINK CONFIGURATION SOFTWARE 3

INSTALLING THE CS-47 GSM LINK CONFIGURATION SOFTWARE 5

PHYSICAL LAYOUT 6

INSTALLING THE HARDWARE UNIT 8

CONFIGURING THE CS-47 LINK UNIT 9

PRE-REQUISITES 9

LOADING THE SOFTWARE CONFIGURATION PROGRAM 9

CONFIGURING THE UNIT LOCALLY 10

CONFIGURING THE UNIT REMOTELY 11

Pre-requisites 11

Configuring the TCP/IP Parameters 14

Saving an Event List File 17

Loading an Event List File 17

Configuring the Contact IDs 17

SMS Configuration 19

REMOTE ACCESS CONFIGURATION 21

ENABLING PASSWORD CONTROL 23

ENABLING PASSWORD AND PHONE NUMBER CONTROL 23

FAST SMS CONFIGURATION 24

TECHNICAL SPECIFICATIONS 25

CHAPTER 1.

Introduction

Congratulations on buying the CS-47 GSM link.

Product Description

The CS-47 Link is a GSM add-on modem operating on a cellular phone network that connects to the Runner bus and can function as a dialer or backup dialer to the PSTN (Public Switched Telephone Network) one already installed in the Runner control panel.

The reason this system is so popular is because when an event or alarm occurs the unit can report to a central station and send an SMS message to a cellular phone.

The following reporting media can be used simultaneously:

Transport Mode	Format
GPRS	TCP/IP
GSM	CID
GSM	SMS

Features

- **Full event reporting -** for all Runner C.P. events.
- **Multiple formats – TCP/IP**, CID and SMS reporting formats.
- Reporting up to 4 subscriber phones **in CID/SMS** format.
- **Reporting up to 4 IP Addresses in TCP/IP format**
- **GSM/GPRS communication -** via GSM Quad Band 900 / 1800 MHz or 850 / 1900 MHz modem based on Cinterion TC63i engine.
- **Backup battery -** rechargeable lead acid battery12 V/1.3 Ah.
- **Tamper alarms -** triggered if cover is opened or the unit is tears from the wall.
- **Programming the unit -** using a PC via USB Port and via GPRS.
- **Two operating modes – Backup or Primary** (TCP/IP only)
- **SMS commands from a mobile feature for remote control**
- **Remote control from another CS47 link feature**

How to Contact Us

See back cover for details.

Installation Pre-Requisites

Software and Hardware Pre-Requisites

These are the pre-requisites for installing the CS-47 configuration program:

- You must have an open cellular account
- SIM card must be unlocked and activated for GPRS data services

Cellular Account (GSM Service Provider)

You need to open a cellular account with your cellular service provider to:

- Enable the cellular gateway module on your unit
- Disable Call Waiting (recommended)
- Disable all roaming features (recommended)

On opening the account you should receive a:

- Cellular phone number
- GSM/GPRS SIM card

SIM Card

When ordering the GSM/GPRS SIM card, be sure to specify to the cellular service provider that the SIM card MUST be activated for GPRS data services (unlocked). In some locations you might receive a password for this, and possibly even a different number.

TCP / IP

For TCP/IP connection you need:

- **APN (Access Point Name) -** APN is the name of a GPRS access point. It identifies an external network accessible from a terminal. An APN has several attributes associated with it that define how you can access the external network at that point.

  Speak to your local service provider to get the ATN of your network
- **IP address -** of target receiver

Computer Requirements

- Any later model computer or laptop with an available USB port

Operating System Requirements

- Windows XP , VISTA , Windows 7

CHAPTER 2.

Installing the Software

The software must be downloaded from the crow website. It is assumed that this is the first time you are using the site. If not, please skip any irrelevant steps listed below.

IMPORTANT NOTE

In order to download files from the Crow website you must get a valid user name and password from your local Crow representative or directly from Crow support.

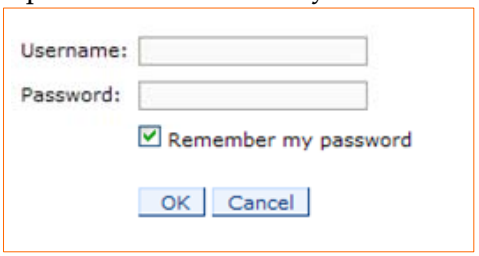
Downloading the CS-47 GSM Link Configuration Software

◆ **To download the CS-47 GSM link configuration software:**

1. Open the following link in your browser:

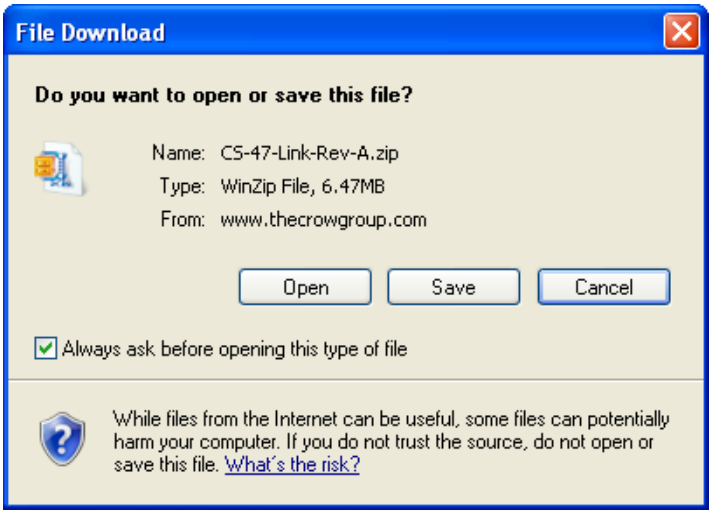
   http://www.thecrowgroup.com/support-download.asp

2. Select the category **CS Series – GSM Backup Systems**.
3. Select **CS-47 Link PC Application** zip file.
4. Select the **Remember my password** checkbox if you want Windows to remember your user name and password.
5. Enter the user name and password you received from your local Crow representative or directly from Crow support.

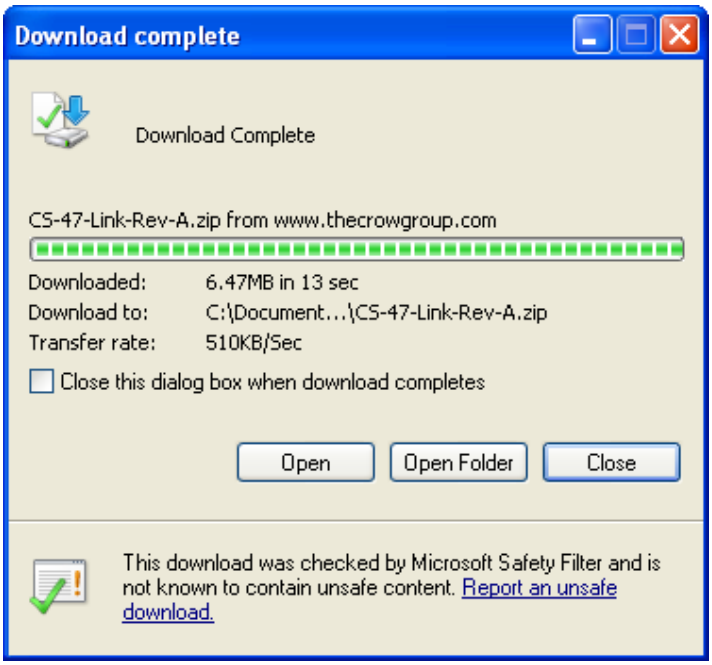


The first time you download software from the site it may be automatically saved on your desktop in zipped format. Usually, when you click the **OK** button after entering your user name and password the message shown below is displayed.

6. Click the **OK** button.


File Download
Do you want to open or save this file?
Name: CS-47-Link-Rev-A.zip
Type: WinZip File, 6.47MB
From: www.thecrowgroup.com
Open
Save
Cancel
Always ask before opening this type of file
While files from the Internet can be useful, some files can potentially harm your computer. If you do not trust the source, do not open or save this file. What's the risk?

7. When the above message is shown, click the Save button.
8. Save the file on your desktop.


Download complete
Download Complete
CS-47-Link-Rev-A.zip from www.thecrowgroup.com
Downloaded: 6.47MB in 13 sec
Download to: C:\Document...\CS-47-Link-Rev-A.zip
Transfer rate: 510KB/Sec
Close this dialog box when download completes
Open
Open Folder
Close
This download was checked by Microsoft Safety Filter and is not known to contain unsafe content. Report an unsafe download.

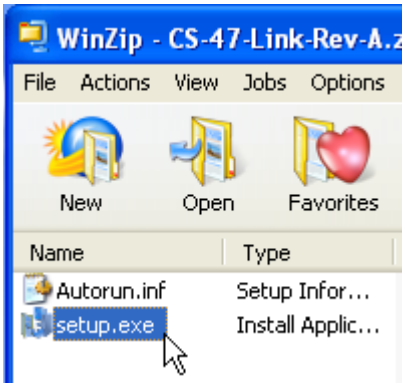
The **CS-47 link** zip file is placed on your desktop.

Clicking the Open button opens the downloaded zip file. This is described in detail in the section below.

Installing the CS-47 GSM link Configuration Software

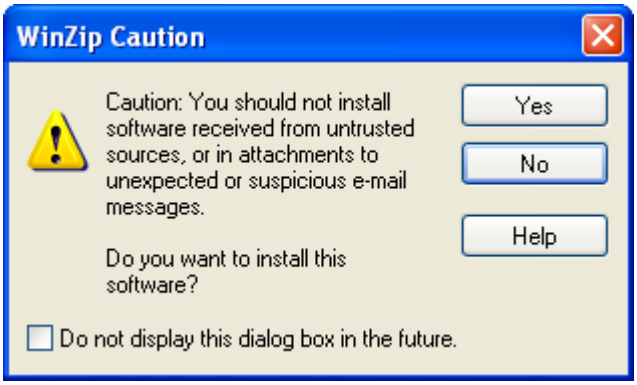
◆ To install the CS-47 GSM link configuration software:

1. When the software is downloaded, click the Open button to open the zipped file. You can also double-click the file.



   You require zip software to open the zipped file.

2. From inside the zip folder, double-click the **Setup.exe** file.


WinZip Caution
Caution: You should not install software received from untrusted sources, or in attachments to unexpected or suspicious e-mail messages.
Do you want to install this software?
Yes
No
Help
Do not display this dialog box in the future.

3. Click the Yes button and the follow the on-screen prompts to install the software.

   When the software is successfully installed the **CS-47 Configuration** icon is placed on the desktop,

CHAPTER 3.

Physical Layout

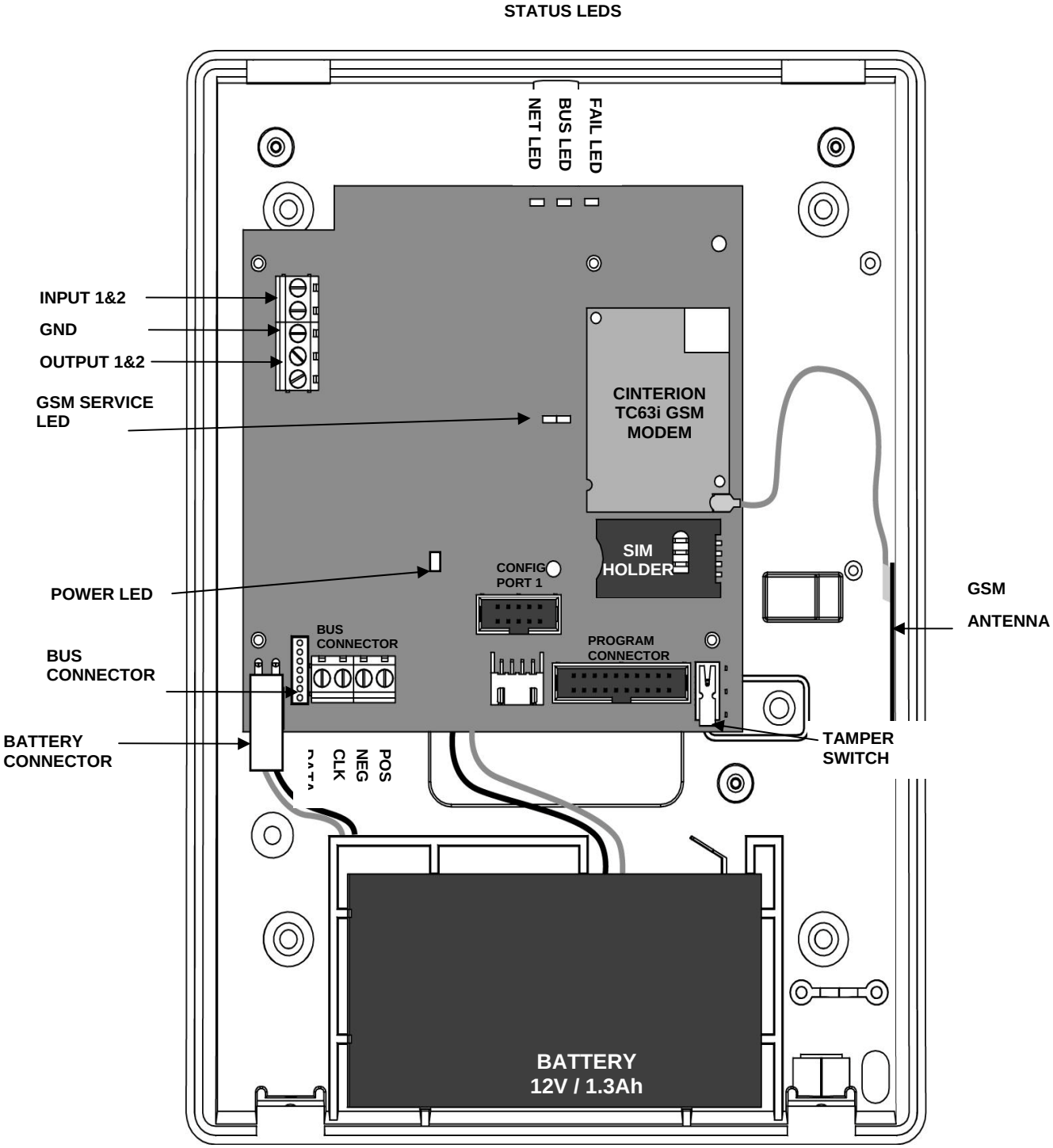


Table 1: Component Description

Component	Description
Status LEDs	**NET:** Turns green when there is communication with the TCP/IP server. **BUS:** Blinks yellow when the bus is communicationg with the control panel. **FAIL:** Blinks or solid red on network error. For example, a problem with the SIM card or GSM network , open tamper
Power LED	Turns red when power is applied to the unit.
Modem LED	Blinks yellow when the GSM service is connected.
SIM Card Holder	SIM card used for the GSM modem.
Antenna	Cellular phone antenna connector.
Tamper Switch	Activates alarm if cover is removed.
Program Connector	Connector for connecting the inputs and outputs.
CONFIG PORT	Serial port that connects to a PC or laptop.
Battery Connector	Backup rechargeable battery 12 V/1.3 Ah lead acid.
Bus Connector	For communication with the control panel.
Power LED	Red when power good.
GSM Modem	Siemens TC63 based GSM modem
GSM Service LED	Blinks yellow when GSM service is connected.
Terminal Block	Output 1&2
	Gnd
	Input 1&2

CHAPTER 4.

Installing the Hardware Unit

IMPORTANT NOTES

If the GSM unit is being installed as a backup module, it should NOT be installed too close to the panel.

It is recommended to configure the unit at the lab before installing it at the customer's premises.

◆ To install the hardware unit containing the CS-47 GSM link:

1. Choose a suitable location within the secured area for the unit within 1 to 20 meters from the Runner.
2. Using the paper template drill 4 holes in the wall to mount the unit.
3. Using four screws and rawl-plugs (wall plugs), fix the unit to the wall or any other firm flat surface.
4. Power OFF the Runner and disconnect the backup battery.
5. Connect the unit to the Runner bus.

   The bus consists of four wires: **Pos (+12V)**, **Neg (-12V)**, **Clk** and **Data**.
   See Page 6
6. If the CS-47 link is going to use an external 12V power supply the GND wire from the power supply MUST be connected to the GND Bus (Neg) terminal.
7. Insert the SIM card into the SIM card holder.

   If you haven't cancelled call waiting and all roaming options it is recommended to do so by contacting your ISP (Internet Service Provider).
8. Ensure that the antenna is properly connected.
9. Power ON the Runner.
10. Connect the backup battery.

CHAPTER 5.

Configuring the CS-47 Link Unit

The CS-47 unit can be configured in either Backup or Independent (standalone) modes. The Backup mode uses the GSM link if the PSTN fail or report via PSTN failed.

Pre-requisites

Before configuring the CS-47 do the following:

- To ensure proper reporting, disable the **No Keypad Indication if Armed setting**

  Runner programming Address: P25E13E 5E

- Disable the following setting:

  Runner programming Address: P168E1-16E 4E

- Connect the CS-47 Link modem to the PC

  Power OFF the Runner and disconnect the battery before connecting the serial cable

Loading the Software Configuration Program

IMPORTANT NOTE

The CS-47 Link modem must be connected to the PC using a serial cable before you can run the configuration software.

◆ **To load the configuration software:**

1. On the desktop, double-click the

icon.

2. Select a language.
3. Click the Next > button.
4. If your SIM card does NOT require a PIN number ignore the next step.
   If you do however require a PIN number continue below.

5. Enter a PIN number and click the **OK** button.

Configuring the Unit Locally

This section describes how to configure the unit using a local COM port.
To configure the unit remotely see *Configuring the Unit Remotely* on page 11.

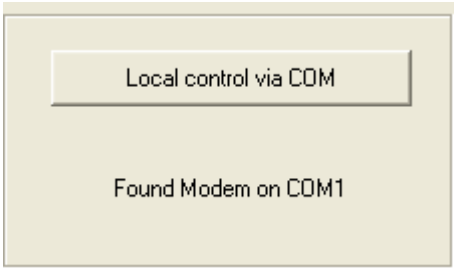
- Connect your PC or laptop to the unit using a serial cable connected via COM port
- Connect remotely via another CS-47 link modem to the one you want to configure

IMPORTANT NOTE

Before you are able to configure the system unit remotely it must be first configured locally.

◆ To connect locally using serial cable:

1. Connect the serial cable between your PC and the CS-47 link modem configuration port. See Page 6 for the location of the connector.
2. Load the CS-47 configuration program.



3. Click the **Local control via COM** button.
4. Click the Next > button.

Configuring the Unit Remotely

This section describes how to use your PC or laptop to configure the unit remotely using another CS-47 link modem.

IMPORTANT NOTES

Before you are able to configure the system unit remotely it must be first configured locally.

Pre-requisites

- The remote CS-47 link modem must be a standalone unit and **NOT** be connected to a Runner keypad bus.
- You need the phone number and password of the remote system you want to contact and configure.
- Make sure that both Units registered to Network.

Remote Site Configuration Setup

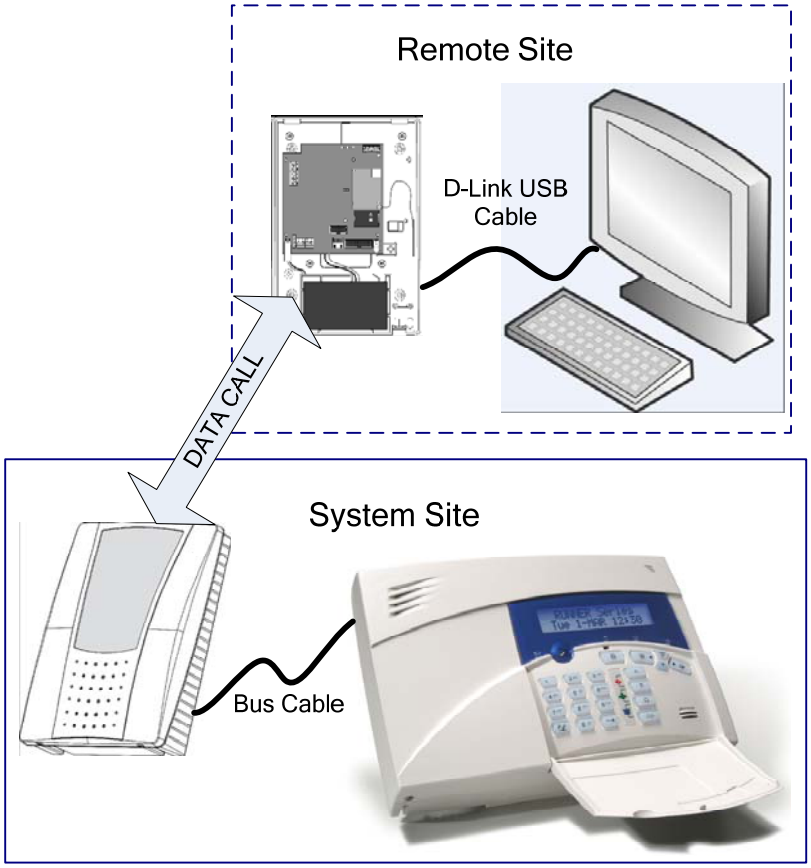


Figure 1: Remote Configuration Setup

Available Protocols

The following protocols can be used simultaneously:

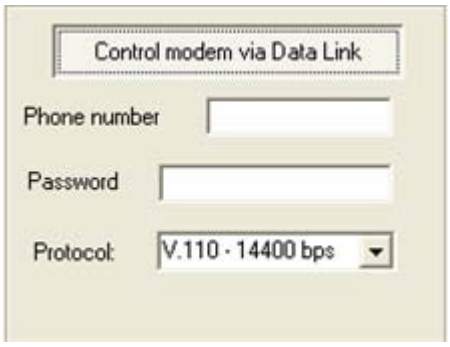
Media	Format	Priority	Symbol	Section
GPRS	TCP/IP	1		0
GSM	CID	2		0
GSM	SMS	3		0

IMPORTANT NOTES

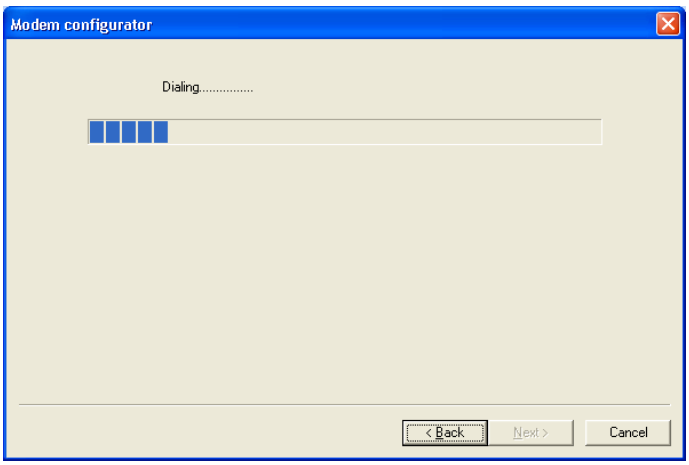
If both the GSM and TCP/IP protocols are selected, the data is only sent via TCP/IP. If the TCP/IP fails then the data is sent via GSM.

◆ To connect to a remote CS-47 unit using another CS-47 Link modem:

1. Ensure that the remote site hardware is setup as shown in Connect the remote site as shown in Figure 1 above..
2. Click the **Control modem via Data Link** button.

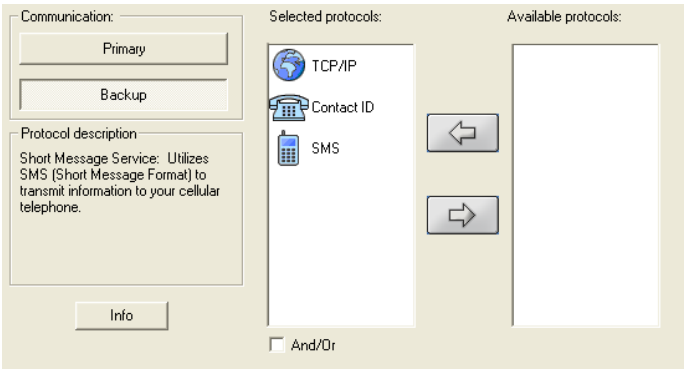


3. Enter the remote system's Phone number, Password and Remote Protocol.
4. Click the Next > button.



The modem starts connection.

5. Use the button to move an **Available protocols** to the **Selected protocols** pane.



Use the button to move **Selected protocols** back to the **Available protocols** pane.

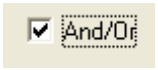
5.1 **Communication Mode**:

Backup – CS47 link transmit the events sequentially via all selected protocols for any new events from control panel

Primary – this mode is relevant for TCP/IP protocol only. At this mode the CS-47 Link report via TCP/IP and Runner doesn't report via the PSTN unless an acknowledge for the report from the CS-47 Link didn't sent to Bus in 10 sec. In this case the Runner will transmit the event via PSTN .

The SMS Remote control feature will not be operational in this mode.

5.2 **And/Or mode**:



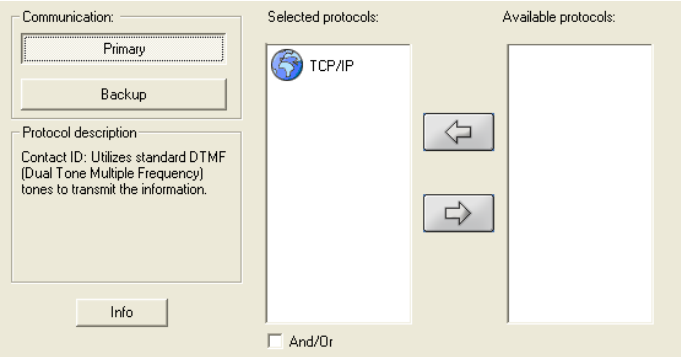
- check the box to define "And" mode

In this mode all events will be transmitted to all selected protocols

- uncheck the box to define "Or" mode

In this mode all events will be transmitted via TCP/IP protocol first priority. While a successful delivery of TCP/IP, CS47 link will ignore CID protocol. If TCP/IP delivery failed, events will be transmitted via CID protocol

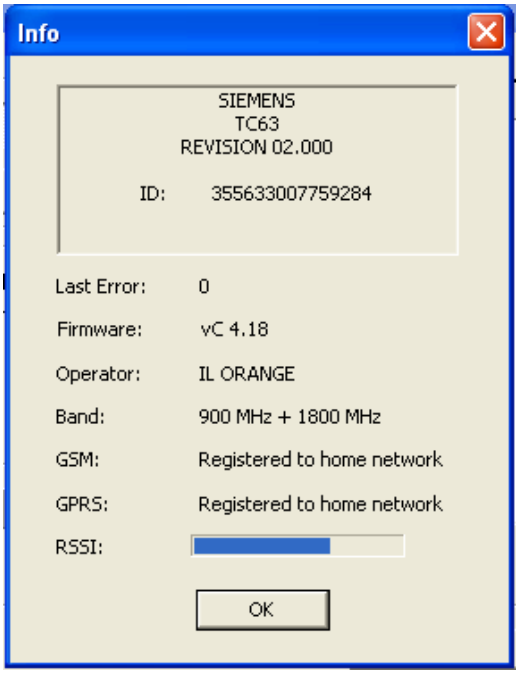
NOTE: The And/OR mode is not relevant for SMS protocol



NOTE

The configuration windows are opened in the sequence they appear in the Selected Protocols pane.

6. Click the Info button.



The modem status information is displayed and includes the CS-47 firmware version, the operator and the RSSI (Received Signal Strength Indicator) level. **If there is a network error an error message is displayed.**

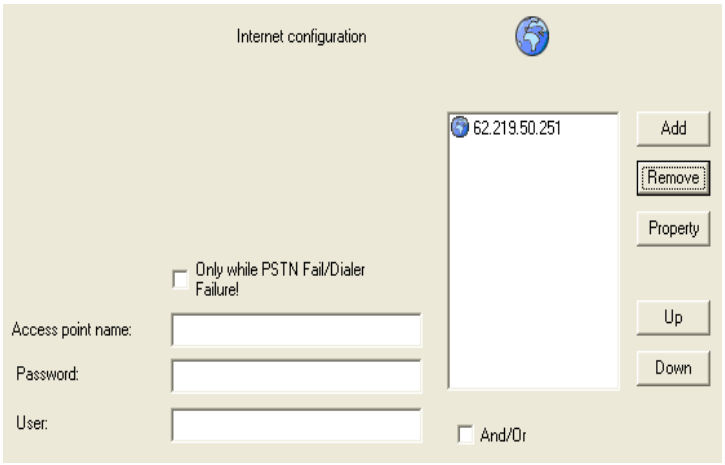
7. Click the OK button to close the window.
8. Configure the different protocols below.

Configuring the TCP/IP Parameters

This section describes how to configure the TCP/IP parameters.

◆ To configure the TCP/IP parameters:

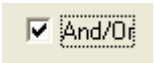
1. Click the Next > button.



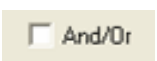
The **Internet configuration** window opens.

Table 2: Internet Configuration Parameters

Button or Field	Description
Access point name	Displays the internet service provider APN (Access Point Name).
Event's Filter	Displays the available events that can trigger the CS-47 Link modem.
Add	Add a new IP address to the list.
Remove	Removes the selected IP address.
Property	Enables you to edit the existing account and IP Address.
Up/Down	The top number is dialed first and if unavailable continues to the next in sequence. Use these buttons to move the numbers up and down the list so that you can place them in the desired sequence.
Only while PSTN Fail/Dialer Failure	Enables the selected protocol ONLY when a PSTN/Dialer failure is detected. Can be independently selected or cleared for each protocol.



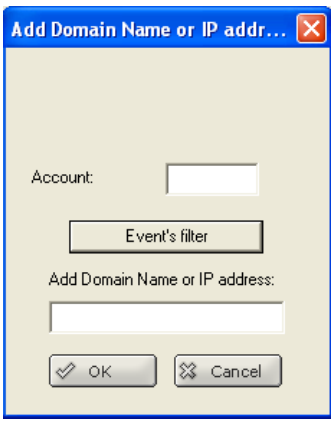
Check the box to enable delivery of all events via all selected IP addresses (up to 4 IP addresses)



In this mode events will be transmitted to the first selected IP Address. On successful delivery the system will stop reporting.

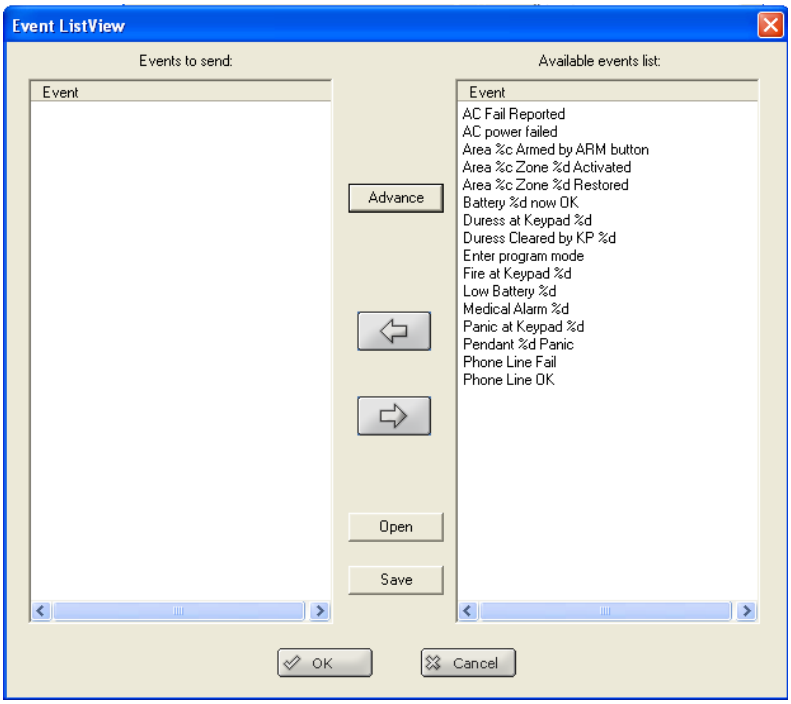
In case of unavailable IP address CS47 continues to the next available IP address.

2. Click the Add button to add a new IP address.



3. In the **Account** field, enter a **4 digit** CS-47 ID number.
4. In the Add Domain Name or IP address filed, enter a domain name or a static IP address.
5. Click the OK button.

   The new Domain or static IP address is added to the list.
6. Add the APN (Access point Name) for your ISP (Internet Service Provider).
7. Click the Event's filter button to add events to trigger a transmission.



   The Simple mode is shown by default. This mode only shows the basic or most popular trigger events.
8. To change to **Advanced** mode, click the Advance button.

The Advanced mode shows **ALL** the available trigger events. To change to the Simple mode, click the

button.

9. Double-click an event from the **Available events list**

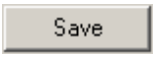
   OR

   Select an event and then click the button.

   Multiple events are now shown in the field **Events to send**. Any one of these events causes the CS-47 Link modem (if enabled) to transmit the event information.

Saving an Event List File

- **To save an event list file:**

1. Click the 

button.
2. Give a descriptive name.
3. Click the

button.

Loading an Event List File

- **To load an event list file:**

1. Click the

button.
2. Select the file you want to load, using the descriptive name.
3. Click the

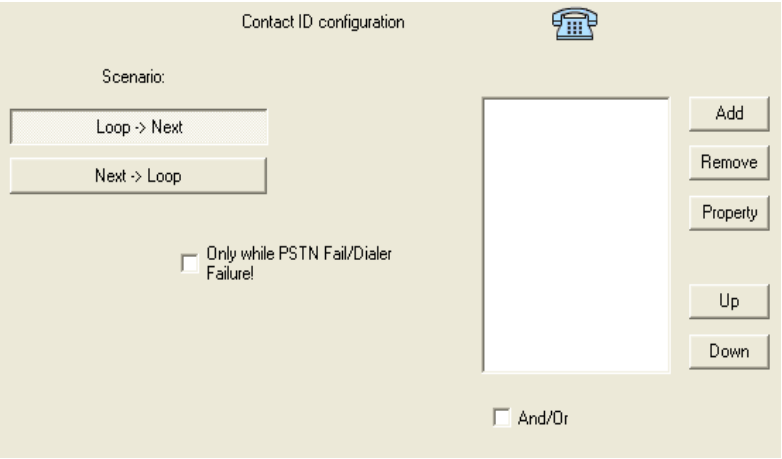
button.

Configuring the Contact IDs

This section describes how to configure the contact ID. The contact ID contains the required contact information to send a message to

◆ To configure the contact ID:

1. Click the Next > button.



The **Contact ID Configuration** window opens.

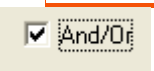
2. Using

Table 4 below as a guide, add Contact ID numbers.

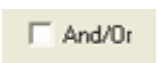
3. Select Events to trigger Input 1.

Table 3: Contact ID Configuration Parameters

Button or Field	Description
Event's Filter	Displays the available events that can trigger the CS-47 Link modem.
Add	Add a new Contact ID number to the list.
Remove	Removes the selected Contact ID number.
Property	Enables you to edit the existing Control ID information.
Up / Down	The top number is dialed first and if unavailable continues to the next in sequence. Use these buttons to move the numbers up and down the list so that you can place them in the desired sequence.
Only while PSTN Fail / Dialer Failure	Enables the selected protocol ONLY when a PSTN/Dialer failure is detected. Can be independently selected or cleared for each protocol.
Loop-> Next **Next-> Loop**	CS47 link will sequentially dial 4 times to the first selected Tel. num. and if there is no answer the CS47 will try 4 times as well to the next selected Tel. num. This is a loop of 4 times that the CS47 dials sequentially to each selected telephone number



Check the box to enable delivery of all events via all selected Telephone numbers.



In this mode all events will be transmitted to the first selected telephone number. On a successful delivery the system will stop

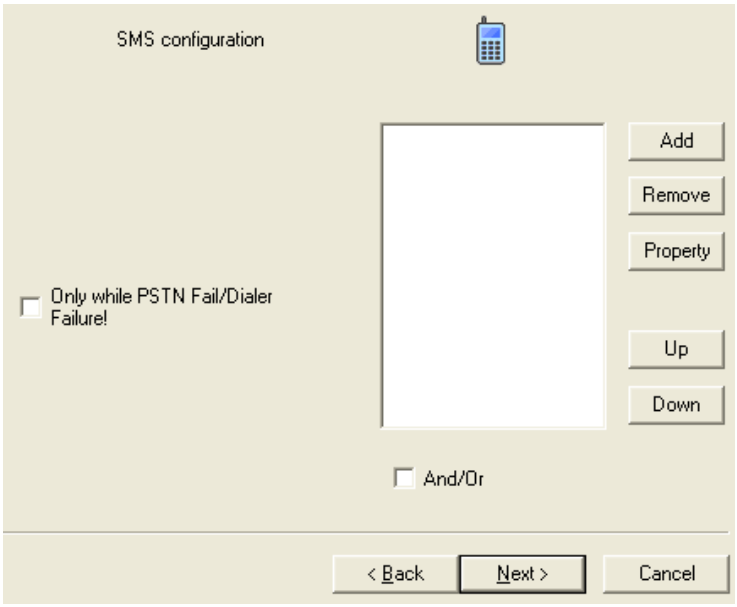
transmit, otherwise the CS47 continues to the next available telephone number

SMS Configuration

This section describes how to configure the SMS parameters for sending SMS message to multiple recipients.

◆ To configure the SMS parameters:

1. Click the Next > button.



The **SMS configuration** window opens.

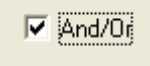
2. Using

Table 4 above as a guide; add numbers for sending an SMS to selected cellular phones.

3. Select Events to trigger Input 1.

Table 4: SMS Configuration Parameters

Button or Field	Description
Event's filter	Displays the available events that can trigger the CS-47 Link modem.
Add	Add a new cellular phone number to the list.
Remove	Removes the selected cellular phone number.
Property	Enables you to edit an existing SMS entry.
Up / Down	The top number is dialed first and if unavailable continues to the next in sequence. Use these buttons to move the numbers up and down the list so that you can place them in the desired sequence.
Only while PSTN Fail / Dialer Failure	Enables the selected protocol ONLY when a PSTN/Dialer failure is detected. Can be independently selected or cleared for each protocol.



Check the box to enable delivery of all events via all selected Mobile numbers

In this mode events will be transmitted to the first selected Mobile number. On a successful delivery the system will stop Transmit, otherwise the CS47 continues to the next available Mobile number.

CHAPTER 6.

Remote Access Configuration

In this section you can configure the remote access for two levels of security.

- Password Only
- Password and telephone number.

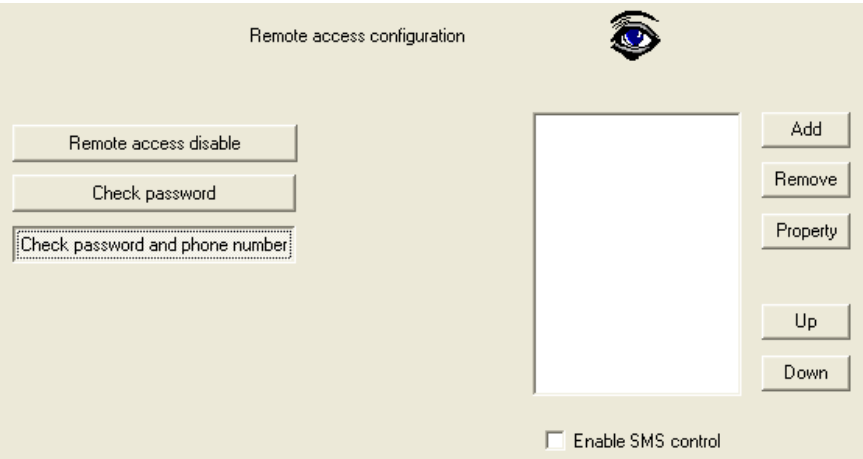
The telephone number is be used to connect from the local unit to the remote unit enabling remote configuration.

NOTE

It is important that your phone can display the incoming phone number.

◆ To configure the remote access to the unit:

1. Click the Next > button.



The **Remote access configuration** window opens.

2. Select a control button.

Table 5: SMS Configuration Parameters

Button	Description
Remote Acess Disable	Disables remote access.
Check Password	Enables password control ONLY.
Check Password And Phone Number	Enables both password and phone number control.
Enable SMS control	Check the box to enable remote control by SMS Note : this option available only with "check password and phone number " mode,

Table 6: SMS Commands used for Remote Control

#	Command	SMS text to be send via Mobile	Example of text to be send	The returned SMS message from unit
1	ARM	ARM☞area☞ user password	ARM☞A☞1234	ARM Command error: Area A already armed ARM Command Area 1 Arm
2	DISARM	DISARM☞ area☞ password	DISARM☞A☞1234	1.DISARM Command error: Area A already Disarmed 2.DISARM Command: Area 1 Disarmed
3	OUTPUT ON control	OUTON☞ number	OUTON☞ 4	1.OUTPUT ON Command Error: ARMED mode 2.OUTPUT ON Command: Output 4 is ON 3.OUTPUT ON Command Error: Output 4 already is ON
4	OUTPUT OFF control	OUTOFF ☞ number	OUTOFF☞ 4	1.OUTPUT OFF Command Error: ARMED mode 2.OUTPUT OFF Command: Output 4 is OFF 3.OUTPUT ON Command Error: Output 4 already is ON
5	Control Panel status	STATUS	STATUS	ARMED STAY: A, B ARMED: A, B ARMING STAY: A, B ARMING : A, B OUTPUT ON: 1, 3, 7
6	GSM/GPRS RSSI status	STATUSGSM	STATUSGSM	Returned SMS with the provider name RSSI (signal measurement) and GPRS status
7	BALNACE	BALANCE	BALANCE	
8	COMMAND	COMMAND☞ user password	COMMAND☞ 1234	User Command is OK

NOTE: when using remote control feature the number of CS47 link under remote number should be insert with the country code (Note: check with your cellular provider)

Enabling Password Control

◆ **To enable password control:**

1. Click the Check password button.

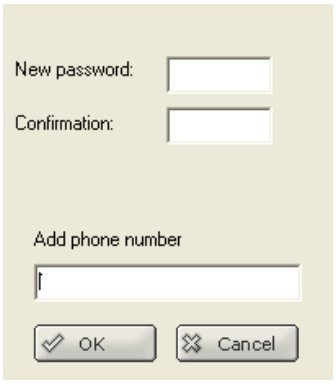
If this is the first time you are entering a password, the **Old password** field does not appear.

2. Enter your old password (if required).
3. Enter your new password twice (up to 10 alpha-numeric characters).
4. Click the OK button.

Enabling Password and Phone Number Control

◆ **To enable both password and telephone number control:**

1. Click the Check password and phone number button.



2. Enter your old password (if required)
3. Enter your new password twice (up to 10 alpha-numeric characters).
4. Enter a telephone number.
5. Click the OK button.

You are returned to the **Configuration** window.

Fast SMS Configuration

When Input 1 is shorted to ground (pulse), a custom SMS is sent to all the phone numbers selected in the SMS configuration window. If the SMS protocol is not selected (**Selected protocols)** then **NO** SMS **CAN** be sent.

At the same time that an SMS message is sent to the selected recipients a **General Alarm** event is also sent to CID (Contact ID number) 140.

For the CID event to be sent you must ensure that the CID protocol is one of the **elected protocols**. This event will be sent to the phone numbers entered in the contact ID configuration window. If there is a kiss-off for this event, the reporting stops. If NO kiss-off is detected for this event, the event will be reported to the next phone number (if present). If these fields are left blank, then no SMS or CID will be sent.

◆ To configure fast SMS:

1. Click the Next > button.

The **Fast SMS** window opens.

2. Enter an SMS message to be sent to ALL recipients selected in the SMS configuration window.

3. The above Fast SMS will be sent whenever input 1 will be triggered

4. **Send Tamper Event if** – check the box to activate the report back to the control panel trouble message option, in case of GSM error or/and TCP/IP error

5. **USSD-string** – this feature is only applicable if the cs47 link use a prepaid SIM card. Insert the USSD-string (provided by cellular provider), use the SMS balance command (SMS remote control must be Enable) to check the SIM card balance (see table no. 6)

6. Click the Finish button.

CHAPTER 7.

Technical Specifications

Item	Specification
Radio Frequency	
Operating frequency	850 MHz, 900 MHz, 1800 MHz, 1900 MHz
Output power	Class 4 EGSM850: 2 W Class 4 EGSM900: 2 W Class 1 EGSM1800: 1 W Class 1 EGSM1900: 1 W
GPRS multi-slot class	12
Modem Type	GSM Quad-Band
Internal Antenna	Tri-Band
Communication Services	
TCP/IP	Stack access via AT commands
Internet services	TCP, UDP, HTTP, FTP, SMTP, POP3
GSM Report Modes	TCP/IP over GPRS CID over GSM SMS over GSM
Interfaces	
Antenna connector	U.FL-R-SMT
SIM card	3 V, 1.8 V
Bus	Runner
Power	
Power supply – External Adaptor (Optional)	14.2V ±0.2V V DC
Battery	12 V 1.3 Ah Lead Acid
Current consumption	Standby: 100 mA Max. 200 mA
Battery charging control	Current limited 260 mA@short 1.6 A fuse protected
Input 1	Reprogrammed SMS
Input 2	**Not In USE**
Output 1	Active **Low** during network error (GSM fail, low RSSI)
Environmental	
Operation temperature	-10 to +50 °C
Storage temperature	-20 to +60 °C
Humidity (EN60721)	< 85 % r.h., non condensing
Approvals	R&TTE, FCC, UL, IC, GCF, PTCRB, CE, Local approvals and network operator certifications

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